



MCPIC Implementation at MARCORLOGCOM

From Stubby Pencil to pRFID

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MARINE CORPS PLATFORM INTEGRATION CENTER (MCPIC)

-MCPIC is an open architecture application based system that does many things, but we will primarily be discussing it's use for speed to count and location as a service. MCPIC is 100% Government owned and fully accredited.



So.....why does the implementation of MCPIC matter? Why are we even having this discussion?

The **Chief Financial Officers (CFO) Act of 1990 (Public Law 101–576)** signed into law by President [George H. W. Bush](#) on November 15, 1990, is a [United States federal law](#) intended to improve the government's [financial management](#), outlining standards of financial performance and disclosure. Among other measures, the [Office of Management and Budget \(OMB\)](#) was given greater authority over federal financial management. For each of 24 federal departments and agencies, the position of [chief financial officer](#) was created. In accordance with the CFO Act, each agency or department vests its financial management functions in its chief financial officer. The following is a list of the 24 affected agencies, which includes all 15 [federal executive departments](#) whose heads are included in the [Cabinet of the United States](#), as well as other large agencies:^[1]

- Department of Agriculture
- Department of Commerce
- Department of Defense
- Department of Education
- Department of Energy
- Department of Health and Human Services
- Department of Homeland Security
- Department of Housing and Urban Development
- Department of Interior
- Department of Justice
- Department of Labor
- Department of State
- Department of Transportation
- Department of Treasury
- Department of Veterans Affairs
- Environmental Protection Agency
- National Aeronautics and Space Administration
- Agency for International Development
- Social Security Administration
- General Services Administration
- National Science Foundation
- Nuclear Regulatory Commission
- Office of Personnel Management
- Small Business Administration

In 30 years and 5 attempts, DoD and the USMC have not passed this Congressionally mandated audit.



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- When people think of the US Military, they often think of high tech, cutting edge weaponry.
- These devices are complicated to build and to maintain.
- People seldom think about how we account for and inventory these items.

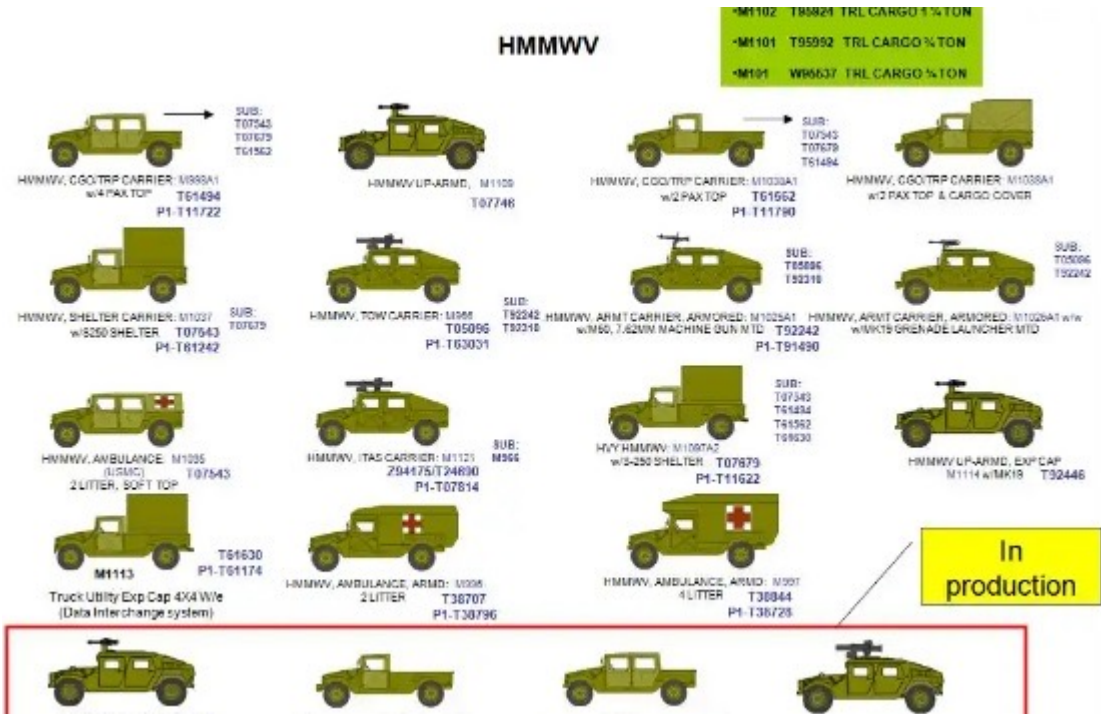


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- Each year DoD gets 100's of billions of dollars to procure equipment.
- We procure LOTS and LOTS of equipment.



SL-3 Items

- Radio
- Weapons System(s)
- Fire Extinguisher
- Optics
- GPS/Crypto Equipment
- Antenna(s)
- List goes on

For the HMMWV alone, there are 19 different variants with an almost endless variation of collateral equipment depending on variant and mission.

So what tool(s) do we use to account for all these items and all these variants?



- Yep you guessed it!
- Too many Accountable Property System of Records (APSRs) have limited technology.
- They print paper inventory sheets and personnel use clipboards and pencils to then walk out and try to manually count all those many assets.



An RMF package can 2 years to finish and cost well over \$1M to complete.

- Why is Information Technology so difficult for DoD?
- Government Procurement is legally prescribed. It is often too slow and cumbersome to react to rapid changes in technology.
- Government policy and laws are slow to change and often bureaucratic.



SO...

1. We have Congressionally mandated Audit that we have failed repeatedly
2. A huge number of items to account for
3. A great deal of complexity associated with the inventory items
4. The current APSR does not support Automated Information Technology (AIT)
5. A slow and costly IT procurement process



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Publications

[BICmd Marking SOP](#)

The guidance for the labeling and marking of equipment designated for the Marine Corps Prepositioning Network (MCPN).

[MCBul 3501](#)

The baseline force from which to plan for sustainment and equipment

[NAVMC 2907](#)

Prepositioning Objective that coordinates with program stakeholders and approves for supporting of MPF program and MCPP-N.

[Prepo Handbook](#)

Highlights the logistics that influence in the future type, and storage of

- In 2017, MARCORLOGCOM turned to MCPIC as a means to improve speed to count and location as a service for designated MARCORLOGCOM inventory.
- MCPIC was developed by Blount Island Command (BIC) in Jacksonville, FL as a means to manage Maritime Prepositioning Force (MPF).
- MCPIC uses pRFID to identify equipment and GPS to locate and track its position.



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- In 2018, we began tagging assets at Marine Force Storage Command, Albany, GA.
- In 2019, we began tagging assets at Marine Force Storage Command, Barstow, CA.
- In 2020 we began tagging containers for the Consolidated Storage Program, Jacksonville, NC.
- In 2022 we began tagging sub-assemblies at Maintenance Depot Marine Corps, Albany, GA.

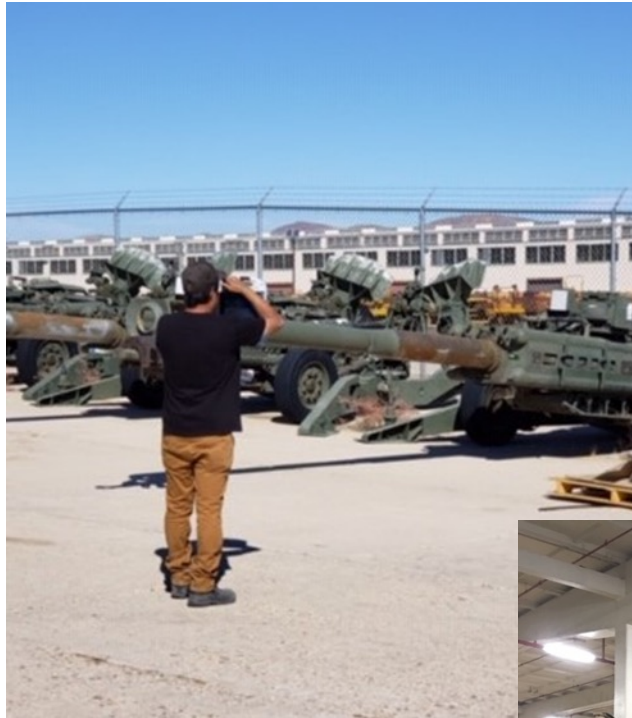




Assets are pRFID marked with appropriate tags and attributes are captured with pRFID tablets. All entries are rigorously checked to ensure correct data capture. This includes photos of asset and all ID plates.

DT311T Rugged Tablet

Slim, Rugged, Multi-functional Wireless Computing





Speed to count with MCPIC



PACMAN

"Passive-RFID Asset Collection Mobile Adapted Node"



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For designated areas and inventory, we provide robots to conduct nightly inventories. This allows staff to have 'fresh' data when they report for work in the am.

Robots: They really work. We have them in production on a nightly basis.



Robotics platform integrated with Raspberry Pi and treated as a managed IoT Device



Robot keeps track of location in the warehouse without GPS or internet connection while autonomously navigating through the warehouse



First robot deployed in a production environment in January 2021 – Building 1121: Marine Forces Storage Command – MCLB Albany





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The screenshot displays the InTrack software interface. On the left is a navigation sidebar with options like 'Search', 'Reports', and 'Items By Plan'. The main area shows a search results table with columns for TAMCN, NSN, Description, Serial Number, Location, Coordinates, Located Date, Last Read Type, Marked By, Marked Date, Modified By, Modified Date, Unit Cost, Serialized, and Plan Name. A detailed view window for 'RADIO TERMINAL SET, AN/TRC-170A(V)3' is open, showing item details, images, and current location. Below the screenshot is a hierarchical diagram showing the parent-child relationship between the radio terminal set and its components.

TAMCN	NSN	Description	Serial Number	Location	Coordinates	Located Date	Last Read Type	Marked By	Marked Date	Modified By	Modified Date	Unit Cost	Serialized	Plan Name
A21797G	5820015505231	RADIO TERMINAL SET, AN/TRC-170A(V)3	U20035	Blg 1231 H Bay 1	31.55487, -84.07502	06/01/2021 08:36:30	Item Read	Sakacs CTR Andrew J	03/23/2021 14:24:47	Sakacs CTR Andrew J	03/23/2021 14:43:53	1500000.00	Yes	MMSA51 MCLB Albany

RADIO TERMINAL SET, AN/TRC-170A(V)3

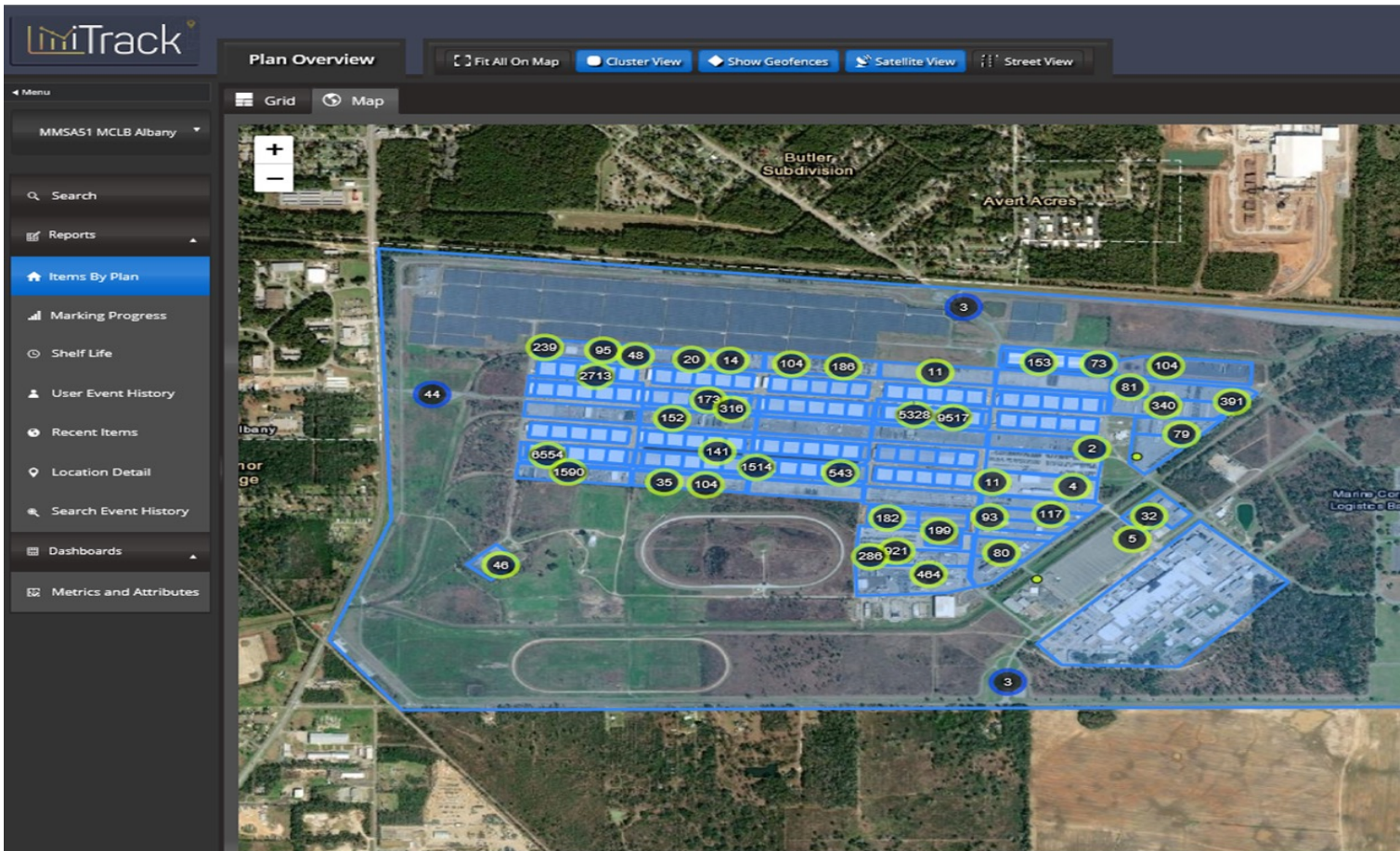
- Item Detail
 - NSN: 5820015505231
 - Serial Number: U20035
 - Plan: MMSA51 MCLB Albany
 - Quantity: 1
 - IUID: D333R429699
 - TAMCN: A21797G
- Images
- Current Location

```
graph TD; A["RADIO TERMINAL SET, AN/TRC-170A(V)3  
NSN: 5820015505231  
Serial #: U20035  
View Component"] -- Used By --> B["TRUCK, UTILITY  
NSN: 2320015402007  
Serial #: 641979  
View Component Item"]; A -- Used By --> C["CHASSIS, TRAILER, CARGO, 3/4 TON, 2W, M116A2  
NSN: 2330011018434  
Serial #: 310229  
View Component Item"];
```

MCPIC does parent / child capture and configuration management. When inventorying, you can readily see parent and all children to know if asset is complete.



MCPIC creates 2D and 3D maps to allow users to physically see where their assets are. By clicking on dots down to the individual asset, users can see exactly what and where the asset is located. This capability was non-existent prior to implementation of MCPIC.





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- MCPIC is being used to improve cost and production schedule efficiency at MDMC, Albany, GA.
- MCPIC tracks designated sub-assemblies through the required reconditioning shops within MDMC and alerts Production Managers when they are ready to be reinstalled.
- 3 of 14 production lines have been put on MCPIC and efficiency has been greatly improved. MDMC is doing a study to determine cost and time reduction.



Video of automated inventory at MDMC



Marine Corps Platform Integration Center



So what has this meant for MARCORLOGCOM?

- 'Found' 114 major end items that were either not on property records or had been erroneously dropped due to being unable to locate.
- Inventory time for Military Equipment over \$100K has dropped from 14 months to 3 hours.
- Inventory for all Military Equipment has dropped from 16 months to 3-4 days.
- Significant improvement in operational efficiency to customers due to being able to readily locate assets.
- Now conduct a full inventory of all MCPIC assets every 30 days as part of normal operations.
- Qualitative feedback to APSR has resolved numerous audit issues.
- In 2022, Marine Force Storage Command received a 100% audit rating on Military Equipment. Previously they had not been able to pass audit for that category of inventory.
- MDMC has improved efficiency and reduced costs. MCPIC has been central to their innovation improvement efforts. They are bringing on NEW customers because of their ability to track assets with MCPIC.
- As a result of MARCORLOGCOM experience with MCPIC, Marine Expeditionary Forces are now asking for MCPIC.



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Questions?



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